Exercise 1

An electric dipole consisting of two charges $\pm 3.2 \times 10^{-19}$ C separated by a distance of 2×10^{-9} m is in an equilibrium position in a uniform electric field of strength 5×10^5 N/C. Calculate the work done in rotating the dipole to a position in which the dipole is perpendicular to the field.

(Ans. 3.2×10^{-32} J)